

**WE CLAIM:**

- 1 1. A method for maintaining a unique session ID in a network, comprising:
  - 2 creating a unique session identifier; and
  - 3 providing the unique session identifier to a software module that provides for performing
  - 4 authentication.
- 1 2. The method recited in Claim 1, wherein:
  - 2 creating a unique session identifier further comprises appending a unique identifier
  - 3 associated with an access server to a local session identifier.
- 1 3. The method recited in Claim 2, wherein:
  - 2 the unique identifier is an IP address.
- 1 4. The method recited in Claim 1, further comprising:
  - 2 providing the unique session identifier to an off-load server.
- 1 5. The method recited in Claim 1, wherein:
  - 2 creating a unique session identifier further comprises creating a unique session identifier
  - 3 for each of a plurality of network access servers.
- 1 6. A system, comprising:
  - 2 a network access server, the network access server being associated with a corresponding
  - 3 unique identifier;
  - 4 wherein the network access server is configured to generate a corresponding local session
  - 5 identifier; and
  - 6 wherein the network server is further configured to generate a corresponding unique
  - 7 session identifier.
- 1 7. The system recited in Claim 6, wherein:
  - 2 the unique identifier is an IP address.
- 1 8. The system recited in Claim 6, wherein:

2 the network access server is one of a plurality of network access servers;  
3 each of the plurality of network access servers is configured to generate a corresponding  
4 local session identifier; and  
5 each of the plurality of network servers is further configured to generate a corresponding  
6 unique session identifier.

1 9. The system recited in Claim 6, further comprising:

2 an off-load server, the off-load server being coupled to receive the corresponding unique  
3 session identifier from the network access server.

1 10. The system recited in Claim 9, wherein:

2 the off-load server is configured to provide the corresponding unique session identifier to  
3 a software module that is configured to perform accounting processing.

1 11. The system recited in Claim 9, wherein:

2 the off-load server is configured to provide the corresponding unique session identifier to  
3 a software module that is configured to perform port counting.

1 12. The system recited in Claim 6, further comprising:

2 a software module that is configured to perform authentication, the software module  
3 being further configured to receive the corresponding unique session identifier  
4 from the network access server.

1 13. The system recited in Claim 6, wherein:

2 the network access server is further configured to generate the corresponding unique  
3 session identifier by appending the unique IP address with the local session  
4 identifier.

1 14. The system recited in Claim 9, wherein:

2 the off-load server is further configured to generate a start record, the off-load server  
3 being further configured to associate the start record with the corresponding  
4 unique session identifier; and

the off-load server is further configured to provide the start record to a software module that provides for performing accounting processing.

15. The system recited in Claim 9, further wherein:

the off-load server is further configured to generate a stop record, the off-load server being further configured to associate the stop record with the corresponding unique session identifier; and

the off-load server is further configured to provide the stop record to a software module that provides for performing accounting processing.

16. An apparatus, comprising:

means for creating a unique session identifier; and

means for providing the unique session identifier to a software module that provides for performing authentication.

17. The apparatus recited in Claim 16, wherein:

means for creating a unique session identifier further comprises means for appending a unique identifier associated with the access server to a local session identifier.

18. The apparatus recited in Claim 17 wherein:

the unique identifier is an IP address.

19. The apparatus recited in Claim 16, further comprising:

means for providing the unique session identifier to an off-load server.

20. The apparatus recited in Claim 16, wherein:

means for creating a unique session identifier further comprises means for creating a unique session identifier for each of a plurality of network access devices.

21. A computer program product, encoded in computer readable media, comprising:

a first set of instructions, executable on a computer system, configured to create a unique session identifier; and

4 a second set of instructions, executable on a computer system, configured to provide the  
5 unique session identifier to a software module that provides for performing  
6 authentication.

1 22. The computer program product of Claim 21, encoded in computer readable media, wherein:  
2 the first set of instructions, executable on a computer system, is further configured to  
3 append a unique identifier associated with an access server to a local session  
4 identifier.

1 23. The computer program product of Claim 21, encoded in computer readable media, wherein:  
2 the unique identifier is an IP address.

1 24. The computer program product of Claim 21, encoded in computer readable media, further  
2 comprising:

3 a second set of instructions, executable on a computer system configured to provide the  
4 unique session identifier to an off-load server.

1 25. The computer program product of Claim 21, encoded in computer readable media, wherein:  
2 the first set of instructions, executable on a computer system, is further configured to  
3 create a unique session identifier for each of a plurality of network access servers.